DOCUMENT RESUME

ED 277 825 CE 045 925

AUTHOR Psacharopoulos, George
TITLE Economic Development and Investment: The Role of the Work Force.
PUB DATE Dec 86
NOTE 10p.; Paper presented at the International Vocational Education and Training Association Conference (Dallas, TX, December 5-9, 1986).
PUB TYPE Viewpoints (120) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Developing Nations; *Economic Development; Educational History; *Educational Needs; Educational Philosophy; Labor Force; *Program Effectiveness; *School Role; Secondary Education; Technical Education; *Vocational Education

ABSTRACT

Although it has been accepted that the work force contributes to a country's development, the issue today is what kind of work force would accelerate economic development and growth. Previously, it was assumed that the provision of "high-level manpower" and "middle-level vocational education" should be given priority to serve a country's developmental objectives. However, current evidence raises the following disquieting issues on vocational-technical education (VTE): (1) VTE is expensive; (2) return on investment in terms of productivity is not as high as for general education; (3) the majority of VTE graduates may not be employed in the economic sector or job for which they were trained; (4) VTE does not necessarily create employment; (5) VTE does not improve students' attitudes about manual labor; (6) VTE cannot be mandated as a terminal level of education; (7) a country's needs in vocational skills cannot be predicted with reasonable accuracy even 2 years ahead; (8) the provision of VTE need not be the responsibility of the state; (9) private provision of VTE skills is more efficient than Ministry of Education-provided courses; (10) it is unjust to support education that benefits the few at the expense of the many; (11) VTE is not the only way to facilitate job skills: on-the-job training may be quicker and cheaper; and (12) VTE may not provide the flexibility needed by the economy. Developing countries should examine these issues and not repeat the mistakes of the past. In most cases, vocational training should be provided by employers or outside the regular school system, and not by the Ministry of Education. (KC)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

CNAME: vecdallas (R)P: 01

ED277825

ECONOMIC DEVELOPMENT AND INVESTMENT:

THE ROLE OF THE WORK FORCE

by

George Psacharopoulos*
The World Bank

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

G Psacharopoulos

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

CE045925

Remarks made at the Meeting of the

International Vocational Education and Training Association

Dallas, Texas, December 5 - 9, 1986

AINAME: vetdallas (R)P: 02

ECONOMIC DEVELOPMENT AND INVESTMENT:

THE ROLE OF THE WORK FORCE

That the work force contributes to development is no longer an issue, if it ever was one. Several studies in the last quarter century have demonstrated that the provision of physical capital alone is not a sufficient condition for economic growth. The numbers of people employed, and especially the skills embodied in the labor force, contribute substantially to development. (For the early classics in the United States and advanced European countries see Schultz, 1961 and Denison, 1967. For a more recent review, including developing countries, see Psacharopoulos 1984).

The issue today is **what kind** of work force would mostly accelerate economic development and growth.

In providing an answer to this question, it is useful to distinguish between the early days of the human capital investment notion and now. In the early days it was thought that the provision of "high level manpower" and "middle level vocational education" should be given priority to serve a country's developmental objectives. But during the past quarter century, we have accumulated much empirical evidence on what was taken for granted in the early sixties — about the effectiveness or social desirability of highly qualified and middle level technicians. Virtually all early development plans assumed this without any supporting evidence.

---

* The views expressed here are those of the author and should not be necessarily attributed to the World Bank.

The evidence we now have at our disposal raises some disquieting issues on vocational-technical education (VTE) that I would like to summarize below:

1. Cost. VTE is expensive. The specialized teachers and equipment needed to provide specialized education raises its unit cost well above that of the same level of general education. For example, secondary schools offering vocational subjects in developing countries cost about twice as much as general secondary schools in the same countries. (See Psacharopoulos 1986).

2. Productivity. VTE graduates may be "more productive" than general education graduates. But are they twice as productive so as to outweigh the higher social cost of VTE? Several studies have found that this is not the case. In Tanzania, for example, the social rates of return to investment in technical and general secondary education are 1.6 and 6.3 percent, respectively. (Psacharopoulos and Loxley, 1985, p. 205).

3. Relevance. The majority of VTE graduates may not be employed in the economic sector or job for which they were trained. In Colombia, for example, only 9 percent of agricultural secondary school graduates were employed in farm-related occupations one year after leaving school. (Velez and Psacharopoulos, 1986, Table 11).

4. Employment. VTE does not necessarily create employment. In a region where employment opportunities are declining in general, provision of VTE may be an expensive way of testing Say's Law, i.e., that supply will create its own demand. (Such testing seems to be taking place now in the United Kingdom).

5. Brainwashing. VTE does not improve students' attitudes about manual labor. When unwilling students are forced onto VTE, as is the case in many countries with restricted general education streams, graduates frequently find their way back into the university track. Thus VTE fails.

6. Terminality. To put the above point in a different way, VTE cannot be mandated as a terminal level of education. If opportunities for employment and advancement remain with the general education streams, graduates will always find their way into such streams, even if official cross-overs are not permitted.

7. Futurology. A country's "needs" in vocational skills cannot be predicted with a reasonable accuracy even two years ahead. The acceleration of the rate of technological development will make such predictions even harder -- or pointless — in the future. (See Ahmad and Blaug, 1973).

8. Financing. The provision of VTE need not be the responsibility of the State. The two other sources for financing VTE are (a) employers (via OJT or a payroll tax in the case of Latin America) and (b) individuals themselves who are exposed to VTE. These two types of financing have important efficiency and equity implications.

9. Efficiency. If employers are willing to offer OJT, it means that they expect productivity gains from such activities exceeding the training costs. If prospective employees are willing to pay in order to enroll at VTE courses, it means that they expect to recoup some benefit when they are employed. Also, private acquisition of VTE skills more likely guarantees that such skills will be used in employment. Provision of VTE by outmoded Ministry of Education courses does not.

10. Equity. If, as in the last case, employers or individuals directly benefit from VTE, why should such form of education be financed from central government funds, i.e., by the average taxpayer? There is a sharp asymmetry here relative to the basic levels of education that on grounds of literacy and externalities would justify government financing. (For a discussion of this point see Friedman 1955).

11. Substitutability. VTE is not the only way to become a skilled worker, say a welder. A person could become a welder by on-the-job training (OJT). In other instances, specialization may be facilitated by increasing the general educational level of those who enter VTE courses. In such case the courses could be shorter and cheaper. (See Jimenez, Kugler and Horn, 1986).

12. Flexibility. Given the inherent ambiguity on where to draw the line between what is "vocational" and what is "general", one may well argue that, in the case of farmers, basic primary education and literacy is the most vocational skill one may provide in an agricultural environment (E.g., Lockheed, Jamison and Lau, 1980, have found that in a number of developing countries 4 years of education rather than none raises on average agricultural productivity by 9 percent).

13. Rewards. Unless the reward structure is right, no headcount of high, middle or upper level technicians will be effectively employed in the occupational slots envisaged. For the same reason that minimum wages are known to create unemployment among the youth, application of civil service "low" pay scales are responsible for observed shortages in occupations in apparent short supply. What may be needed in such cases is to allow wages and salaries to reach their competitive level than create a new VTE school to produce the "needed" graduates.

A New Approach?

Where does this lead us? Skills are needed for an economy to function. If there exist problems with traditional approaches to VTE, as outlined above, what should a country's policy be towards securing the necessary skills in the future for economic growth?

My own view is that the poorer the country is, the more scrutiny this question should be given. To put it bluntly, whereas an advanced industrial country could afford to offer vocational courses at the public expense--perhaps as "enrichment,"--even if the graduates pursue careers completely unrelated to such subjects, poorer countries cannot afford to do so.

Perhaps a first cardinal rule is to absorb the evidence on VTE and avoid repetition of past mishaps in other countries. But this is easier said than done. Administrative inertia is a predominant force and the power of intuitive, but often fallacious, logic overrides rational considerations or even the openness to accept empirical evidence.

But assuming that such inertia is bypassed, the tactics would be to rely as much as possible on the willingness of firms to provide a given type of training or students to enroll in VTE courses. The reason for such tactics is that at least some elementary efficiency and equity criteria would be observed -- not just what a central bureaucrat thinks is good for the country.

Also, what if individuals or firms are myopic or simply do not have enough information on the future comparative advantage of the country or on new product lines that will be promoted by government in the international market place, e.g., oil exploration leading to petrochemical industries. Shouldn't the central authority in this case set up VTE schools to anticipate the need for the range of technicians to be employed in such industries?

Given the history of past attempts of this kind, the answer is no. Perhaps the best the Government should do in such case, is to promote the teaching of science, or even increase the enrollment ratio in primary schools if this is less than 60 percent — as it is in many poor countries. When such conditions are met it would be automatically easier for the "needed technicians" to be formed faster and more efficiently, perhaps by means of on-the-job training.

Of course if the industrial base does not exist to host on-the-job training programs, there may be a case for teaching vocational skills in schools. But even in this case a distinction should be made as to whether such school belongs to the mainstream educational ladder or to a separate vocational track. Experience has shown that vocational education is more successful if provided outside the formal school system, and especially if it is not run by the Ministry of Education.

— — — —

The above remarks should not be construed as anti-vocationalism. The issue is on how to create a work force that is conducive to economic growth and development in general. Awareness of past mishaps can lead to their avoidance in the future.

REFERENCES

Ahamad, B. and Blaug, M., The Practice of Manpower Forecasting, Elsevier, 1973.

Denison, E.F., Why Growth Rates Differ? The Brookings Institution, 1967.

Friedman, M., "The Role of Government in Education," in R. Solo, ed., Economics and the Public Interest, Rutgers University Press, 1955.

Jimenez, E., "An Economic Evaluation of a National Job Training System: Colombia's Servicio Nacional de Aprendizaje (SENA)," EDT Discussion Paper Series No. 24, The World Bank, 1986.

Lockheed, M., Jamison, D. and Lau, L., "Farmer Education and Farm Efficiency: A Survey," Economic Development and Cultural Change, 1980: 37-76.

Psacharopoulos, G. and Loxley, W., Diversified Secondary Education and Development: Evidence from Colombia and Tanzania. Johns Hopkins, 1985.

Psacharopoulos, G., "To Vocationalize or not to Vocationalize: That is the Curriculum Question," EDT Discussion Paper Series No. 31, The World Bank, 1986.

Psacharopoulos, G., "The Contribution of Education to Economic Growth: International Comparisons," in International Comparisons of Productivity and Causes of the Slowdown, edited by J. Kendrick, 335-360. Cambridge: AEI/Ballinger Publishing Company, 1984.

Schultz, R.W., "Education and Economic Growth," in Social Forces Influencing American Education, edited by N.B. Henry, National Society of the Study of Education, pp. 46-88. Chicago: University of Chicago Press, 1961.

Velez, E. and Psacharopoulos, G., "The External Efficiency of Diversified Secondary Schools in Colombia," Paper Presented at the Conference on the Economics of Education, University of Dijon, France, June 22-25, 1986.